ABSTRACT

Disclosed is an optical frequency controlling device for ultra-dense wavelength-division-multiplexed optical channels in which center frequencies of optical channels are aligned. An optical frequency controlling device for ultra-dense wavelength-division-multiplexed optical channels of the present invention comprises an optical channel unit for outputting a plurality of semiconductor laser beams which have different center frequencies, the semiconductor laser beams forming optical channels; an optical detection unit for performing optical detection on the plurality of semiconductor laser beams outputted from the optical channel unit and generating beat frequency signals; a microwave spectrum analyzing unit for outputting spectrum information of the beat frequency signals outputted from the optical detection unit in a digital signal; and a controller for receiving an output signal of the microwave spectrum analyzing unit and controlling the center frequencies of the optical channels of the optical channel unit.